

# DRAFT PERMIT

# STATE OF ARIZONA AQUIFER PROTECTION PERMIT NO. P-105324 PLACE ID 18583, LTF 77132 SIGNIFICANT AMENDMENT

#### 1.0 AUTHORIZATION

In compliance with the provisions of Arizona Revised Statutes (A.R.S.) Title 49, Chapter 2, Articles 1, 2, and 3, Arizona Administrative Code (A.A.C.) Title 18, Chapter 9, Articles 1 and 2, A.A.C. Title 18, Chapter 11, Article 4 and amendments thereto, and the conditions set forth in this permit, the Arizona Department of Environmental Quality (ADEQ) hereby authorizes Johnson Utilities, LLC, to operate the Pecan Water Reclamation Plant, located at 38539 North Gantzel Road, approximately ½ mile north of Combs Road, southeast of the Town of Queen Creek, Arizona, in Pinal County, over groundwater of the Phoenix Active Management Area in Township 2S, Range 8E, Section 29, NW¼, SW¼, SW¼ of the Gila and Salt River Baseline and Meridian.

This permit becomes effective on the date of the Water Quality Division Director's signature and shall be valid for the life of the facility (operational, closure, and post-closure periods) unless suspended or revoked pursuant to A.A.C. R18-9-A213. The permittee shall construct, operate and maintain the permitted facilities:

- 1. Following all the conditions of this permit including the design and operational information documented or referenced below, and
- 2. Such that Aquifer Water Quality Standards (AWQS) are not violated at the applicable point(s) of compliance (POC) set forth below or if an AWQS for a pollutant has been exceeded in an aquifer at the time of permit issuance, that no additional degradation of the aquifer relative to that pollutant and as determined at the applicable POC occurs as a result of the discharge from the facility.

#### 1.1. PERMITTEE INFORMATION

**Facility Name:** Pecan Water Reclamation Plant **Facility Address:** 98539 North Gantzel Rd.,

Queen Creek, Arizona 85140

County: Pinal

**Permitted Flow Rate:** 4,000,000 gallons per day

Permittee: Johnson Utilities, LLC
Permittee Address: 968 E. Hunt Highway
San Tan Valley, AZ 85143

Facility Contact: Environmental Service Manager

**Emergency Phone No.:** 602-722-4100

**Latitude/Longitude:** 33° 13′ 48.198″ N / 111° 33′ 44.630″ W

**Legal Description:** Township 2S, Range 8E, Section 29, NW<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>, Gila and Salt River

Baseline and Meridian

#### 1.2. AUTHORIZING SIGNATURE

Trevor Baggiore,	Director	
Water Quality Div	rision	
Arizona Departme	ent of Environmen	tal Quality
Signed this	day of	202

# THIS AMENDED PERMIT SUPERCEDES ALL PREVIOUS PERMITS



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### 2.0 SPECIFIC CONDITIONS

[A.R.S. §§ 49-203(4), 49-241(A)]

### 2.1. FACILITY / SITE DESCRIPTION

[A.R.S. § 49-243(K)(8)]

Johnson Utilities, LLC is authorized to operate the Pecan Water Reclamation Plant (WRP) with a maximum average monthly flow of 4.0 million gallons per day (mgd). The WRP shall be constructed in four (4) phases, designed as identical treatment trains intended to treat 1.0 mgd each. At the time of permit issuance, Phases 1, 2, and 3 have been constructed which limits the facility to a maximum monthly flow of 3.0 mgd. Raw wastewater enters the influent lift station and is pumped to the common headworks with bar screen, where it is diverted to the separate treatment trains.

**Existing WRP:** The treatment process in each train consists of extended aeration with nitrification and denitrification, clarifiers and sludge digester. In addition to the treatment trains, the treatment process also includes an existing filter and a new disk filter, a chlorine disinfection and de-chlorination system, two (2) sludge dewatering belt filter presses, and an effluent pump station. The effluent discharging to AZPDES outfalls will only be de-chlorinated. The discharge monitoring for TTHMs shall be conducted per Table 11: TOTAL TRIHALOMETHANE MONITORING. The sludge, including screenings, grit and scum, shall be hauled off site for management and disposal at a state approved facility.

**Upgraded WRP:** The treatment process in each train consists of extended aeration with nitrification and denitrification, clarifiers and sludge digester. In addition to the treatment trains, the treatment process also includes an existing filter and a new disk filter, a new ultraviolet (UV) disinfection unit, a backup chlorine disinfection and de-chlorination system, two (2) sludge dewatering belt filter presses, and an upsized effluent pump station. The effluent discharging to AZPDES outfalls will only be de-chlorinated when chlorine disinfection is used and at such time discharge monitoring for TTHMs will be required per Section 2.6.1.1. The sludge, including screenings, grit and scum, shall be hauled off site for management and disposal at a state approved facility.

The effluent shall be reused under a valid Class A+ reclaimed water permit, recharged through recharge basins, vadose zone recharge wells and/or direct aquifer injection recharge wells, discharged to subsurface leach field located in Queen Creek Wash or discharged to Queen Creek Wash under a valid AZPDES permit. The discharge to the subsurface leach field and to the Queen Creek Wash outfalls are intended to occur on emergency basis and for temporary durations when other disposal or beneficial reuse options are unavailable.

Recharge Basin #1 will have the dual purpose of acting as an equalization storage pond to handle diurnal and/or seasonal flow variation of the treated effluent. Under the equalization storage pond mode, effluent may be pumped from the effluent pumping station to Recharge Basin #1. At a later time, the effluent in Recharge Basin #1 may then be pumped back to the effluent pumping station and after chlorination it will be conveyed back out to the end users. The effluent discharging to AZPDES outfalls will be de-chlorinated and at such time discharge monitoring for TTHMs will be required per Section 2.6.1.1.

### Recharge Basins and Vadose Zone Recharge Wells

The facility consists of four recharge basins located northeast, east, southeast and southwest of the Phase 1 through 4 treatment trains. The recharge basins may recharge up to 2.7 mgd of effluent.

Fifty-five (55) vadose zone recharge wells have been installed throughout the site. Forty-two (42) vadose zone recharge wells have been installed in the recharge trains located northeast, east, southeast and southwest of the Phase 1 through 4 treatment trains. Thirteen (13) vadose zone recharge wells have been installed outside of the recharge trains. Six (6) are located east of the Phase 1 through 4 treatment trains and seven (7) are located south of the Phase 1 through 4 treatment trains.



### **Direct Aquifer Injection Recharge Wells**

The facility may install up to four (4) direct aquifer injection recharge wells as one-to-one replacements for four (4) retired vadose zone recharge wells. The facility may install these wells as needed. The facility has not installed any direct aquifer injection recharge wells at the time of permit issuance.

ADEQ reviewed and approved the following changes to the permit:

- 1. Addition of a new disk filtration unit to provide additional capacity and redundancy.
- 2. Replacement of the existing UV disinfection unit with a new UV unit
- 3. Addition of a de-chlorination system for discharge going to Queen Creek Wash when a backup chlorine disinfection system is utilized for disinfection.
- 4. Approval of existing recharge basins to discharge the effluent.
- 5. Approval to discharge the effluent through subsurface leach field located within Queen Creek Wash
- 6. Approval to discharge the effluent to Queen Creek Wash at Outfall 002 and Outfall 003
- 7. Update the total number of 54 active vadose zone recharge wells to 55 at the site and allow the four (4) direct injection wells to be installed as one-to-one replacements for four (4) retired vadose zone recharge wells.

All industrial hookups and other non-residential hookups to the treatment system shall be authorized according to the applicable federal, state or local regulations.

The site includes the following permitted discharging facilities:

Table 1: DISCHARGING FACILITIES			
Facility	<b>Descriptive Location</b>	Latitude	Longitude
Pecan WRP	Center of WRP	33° 13' 49" N	111° 33' 45" W
Recharge Basin 1	S of treatment train	33° 13' 49.35"N	111° 33' 40.16"W
Recharge Basin 2	SE of treatment train	33° 13' 47.19"N	111° 33' 40.17"W
Recharge Basin 3	E of treatment train	33° 13' 44.70"N	111° 33' 39.97"W
Recharge Basin 4	E of treatment train	33° 13' 44.66"N	111° 33' 44.17'W
Subsurface Leach Field in Queen Creek Wash	Queen Creek Wash	33° 13' 53.97"N	111° 33' 26.63"W
Outfall #2	Queen Creek Wash	33° 13' 51.05"N	111° 33' 40.15"W
Outfall #3	Queen Creek Wash	33° 13' 50.94"N	111° 33' 49.62"W
Vadose Well #1	E of treatment train	33° 13' 49.86"N	111° 33° 42.24"W
Vadose Well #2	E of treatment train	33° 13' 49.36"N	111° 33' 42.31"W
Vadose Well #3	E of treatment train	33° 13' 48.74"N	111° 33' 42.27"W
Vadose Well #4	E of treatment train	33° 13' 48.22"N	111° 33' 42.24"W
Vadose Well #5	E of treatment train	33° 13' 47.58"N	111° 33' 42.26"W
Vadose Well #6	E of treatment train	33° 13' 47.09"N	111° 33' 42.26"W
Vadose Well #7	E of treatment train	33° 13' 46.46"N	111° 33' 43.93"W
Vadose Well #8	E of treatment train	33° 13' 46.44"N	111° 33' 43.43"W
Vadose Well #9	E of treatment train	33° 13' 46.61"N	111° 33' 43.04"W
Vadose Well #10	E of treatment train	33° 13' 46.34"N	111° 33' 43.04"W
Vadose Well #11	E of treatment train	33° 13′ 46.70″N	111° 33' 42.55"W
Vadose Well #12	E of treatment train	33° 13' 46.40"N	111° 33' 42.56"W
Vadose Well #13	E of treatment train	33° 13' 46.13"N	111° 33' 42.20"W
Vadose Well #14	Basin 1	33° 13' 45.61"N	111° 33' 42.03"W
Vadose Well #15	Basin 1	33° 13' 44.71"N	111° 33' 41.98"W



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Table 1: DISCHARGING FACILITIES			
Facility Descriptive Location Latitude Longitude			
Vadose Well #16	Basin 1	33° 13' 45.24"N	111° 33' 42.70"W
Vadose Well #17	Basin 1	33° 13' 45.23"N	111° 33' 43.19"W
Vadose Well #18	Basin 1	33° 13' 49.80"N	111° 33' 42.15"W
Vadose Well #19	Basin 1	33° 13' 44.72"N	111° 33' 43.46"W
Vadose Well #20	Basin 1	33° 13' 45.39"N	111° 33' 45.48"W
Vadose Well #21	Basin 1	33° 13' 44.17"N	111° 33' 45.55"W
Vadose Well #22	Basin 1	33° 13' 44.62"N	111° 33' 41.52"W
Vadose Well #23	Basin 2	33° 13′ 46.01″N	111° 33' 40.25"W
Vadose Well #24	Basin 2	33° 13' 45.25"N	111° 33' 40.28"W
Vadose Well #25	Basin 2	33° 13' 45.24"N	111° 33' 39.66"W
Vadose Well #26	Basin 2	33° 13' 44.96"N	111° 33' 40.28"W
Vadose Well #27	Basin 2	33° 13' 44.80"N	111° 33' 40.62"W
Vadose Well #28	Basin 2	33° 13' 44.76'N	111° 33' 39.46"W
Vadose Well #29	Basin 2	33° 13' 44.37"N	111° 33' 40.28"W
Vadose Well #30	Basin 2	33° 13' 44.34'N	111° 33' 39.69"W
Vadose Well #31	Basin 2	33° 13' 44.11'N	111° 33' 40.72"W
Vadose Well #32	Basin 3	33° 13' 47.62"N	111° 33' 41.12"W
Vadose Well #33	Basin 3	33° 13' 47.62"N	111° 33' 40.57"W
Vadose Well #34	Basin 3	33° 13' 47.65"N	111° 33' 39.94"W
Vadose Well #35	Basin 3	33° 13' 47.65"N	111° 33' 39.36"W
Vadose Well #36	Basin 3	33° 13' 47.17"N	111° 33′ 40.93″W
Vadose Well #37	Basin 3	33° 13' 47.16"N	111° 33' 40.30"W
Vadose Well #38	Basin 3	33° 13' 47.15 "N	111° 33' 39.50"W
Vadose Well #39	Basin 3	33° 13' 46.74"N	111° 33' 41.08"W
Vadose Well #40	Basin 3	33° 13' 46.77"N	111° 33' 40.57"W
Vadose Well #41	Basin 3 Basin 3	33° 13' 46.78"N	111° 33' 40.57' W
Vadose Well #42	Basin 3 Basin 3	33° 13' 46.77"N	111° 33' 39.29"W
Vadose Well #43	Basin 3 Basin 3	33° 13' 46.40"N	111° 33' 38.90"W
Vadose Well #44	Basin 4	33° 13' 48.35"N	111° 33' 40.11"W
Vadose Well #45	Basin 4 Basin 4	33° 13' 49.76"N	111° 33' 40.11' W
Vadose Well #46	Basin 4 Basin 4	33° 13' 49.85"N	111° 33' 40.42"W
Vadose Well #47	Basin 4 Basin 4	33° 13' 49.81"N	111° 33' 39.90"W
Vadose Well #48	Basin 4 Basin 4	33° 13' 49.81"N	111° 33' 39.33"W
Vadose Well #49	Basin 4 Basin 4	33° 13' 49.54"N	
Vadose Well #50	Basin 4 Basin 4	33° 13' 49.38"N	111° 33' 41.03"W 111° 33' 40.43"W
Vadose Well #51	Basin 4	33° 13' 49.60"N	111° 33' 40.15"W
Vadose Well #52	Basin 4	33° 13' 48.79"N	111° 33' 41.08"W
Vadose Well #53	Basin 4	33° 13' 48.79"N	111° 33' 40.49"W
Vadose Well #54	Basin 4	33° 13' 48.83"N	111° 33' 39.83"W
Vadose Well #55	Basin 4	33° 13' 48.85"N	111° 33' 39.20'W
Direct Aquifer Injection Well 1	TBD as replacement for a future retired vadose zone well	TBD	TBD
Direct Aquifer Injection Well 2	TBD as replacement for a future retired vadose zone well	TBD	TBD
Direct Aquifer Injection Well 3	TBD as replacement for a future retired vadose zone well	TBD	TBD



Table 1: DISCHARGING FACILITIES			
Facility Descriptive Location Latitude Longitude			
Direct Aquifer Injection Well 4	TBD as replacement for a future retired vadose zone well	TBD	TBD

#### 2.1.1. Annual Registration Fee

[A.R.S. § 49-242 and A.A.C. R18-14-104]

The annual registration fee for this permit is payable to ADEQ each year. The annual registration fee flow rate is established by the permitted flow rate identified in Section 1.1. If the facility is not constructed or is incapable of discharge, the permittee may be eligible for reduced fees pursuant to A.A.C. R18-14-104(A), Table 2. Send all correspondence requesting reduced fees to the Groundwater Protection Value Stream. Please reference the permit number, LTF number, and the reason for requesting reduced fees under this rule.

### 2.1.2. Financial Capability

[A.R.S. § 49-243(N) and A.A.C. R18-9-A203]

The permittee has demonstrated financial capability under A.R.S. § 49-243(N) and A.A.C. R18-9-A203. The estimated dollar amount for facility closure is \$357,600. The financial capability was demonstrated through Letter of Credit per A.A.C. R18-9-A203(C)(5).

#### 2.2. BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY (BADCT)

[A.R.S. § 49-243(B), A.A.C. R18-9-A202(A)(5), A.A.C. R18-9-B201 through A.A.C. R18-9-B204]

The treatment facility shall be designed, constructed, operated, and maintained to meet the treatment performance criteria for new facilities as specified in A.A.C. R18-9-B204. The facility shall meet the performance requirement for industrial pre-treatment as per A.A.C. R18-9-B204(B)(6)(b). The treatment facility shall not exceed a maximum seepage rate of 550 gallons per day per acre for all containment structures within the treatment works.

All the odor producing units including the headworks, extended aeration process, and sludge dewatering belt filter press are enclosed inside a building with odor control scrubbers installed on all vents. The influent lift station is also provided with covers and odor control. The blowers are located in the blower room enclosed inside a building. The WRP meets the required setback requirements by providing 350 feet setback on three sides and a waiver on one side, for the full build-out WRP design capacity of 4.0 MGD.

The permittee shall not operate the facility so that it emits an offensive odor on a persistent basis beyond the setback distance of 350 feet as per A.A.C. R18-9-B201(J).

#### 2.2.1. Engineering Design

The WRP was designed as per the design report prepared by Terry Moore, P.E., Moore and Associates, Inc., dated September 26, 2003, and finalized by Gregory H. Brown, P.E., Sunbelt Utility Services, L.L.C., and subsequent sealed submittals that served as additions to the design report.

The as-built for recharge basins are stamped, dated, and signed (sealed) by Peter D. Cote, Registered Surveyor, The WLB Group, dated June 8, 2018.

The filter and UV disinfection unit is designed per the design report prepared and stamped, dated, and signed (sealed) by Abel Ramarui, P.E. (Professional Engineer) Water Works Engineers dated December 18, 2019 and subsequent sealed submittals that served as additions to the design report.

The Scour Potential Assessment for Subsurface Leach Lines was performed and the report is prepared stamped, dated, and signed (sealed) by Jon T. Ahern, P.E., JE Fuller Hydrology & Geomorphology, Inc. dated March 31, 2020.



#### 2.2.1.1. Recharge Basins:

The facility consists of four recharge basins located northeast, east, southeast and southwest of the Phase 1 through 4 treatment trains. The total surface area of these four recharge basins is 4.819 acres. Based on the percolation rates, it was demonstrated that the facility can recharge up to 2.72 mgd of effluent through four recharge basins.

#### 2.2.1.2. Subsurface Disposal Field:

The subsurface disposal field is located within a Queen Creek Wash, north of the WRP. The leach field is approximately 0.25 miles long and consisted of six parallel trenches constructed a minimum of two feet below the active channel of ephemeral Queen Creek. Each trench is approximately 1100 feet long and consist of 3-foot wide trenches spaced 20 feet apart with 4-inch diameter perforated pipe placed in the center. The trench is set at a slope of ~0.003 feet/feet. The perforated pipe is laid over one foot of washed gravel with another one foot of washed gravel cover. The trenches are covered with geotextile fabric to protect against soil infiltration. Approximately 1 mgd of effluent can be discharged through the leach lines per the percolation testing results in report dated June 2007. Prior to discharge through subsurface disposal field, the facility shall conduct the percolation testing to confirm the actual disposal capacity through the existing leach field per Compliance Schedule Item #6. The scour assessment of the subsurface leach field demonstrated that there is little evidence of future scour/degradation along the bottom of the subsurface leach field pipes.

## 2.2.2. Site-Specific Characteristics

Site specific characteristics were not used to determine BADCT.

#### 2.2.3. Pre-Operational Requirements

Prior to initiating use of the a new disk filter unit, UV disinfection unit and Phase 4 treatment train, the permittee shall submit a signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department per the compliance schedule in Section 0. The certificate shall be submitted to the Groundwater Protection Value Stream.

#### 2.2.4. Operational Requirements

- The permittee shall maintain a copy of the up-to-date operations and maintenance manual at the treatment facility site at all times; the manual shall be available upon request during inspections by ADEQ personnel.
- The pollution control structures shall be inspected for the items listed in Section 4.2, Table 14: FACILITY INSPECTION AND OPERATIONAL MONITORING and Table 15: OPERATIONAL MONITORING for SUBSURFCE LEACH FIELD.
- 3. If any damage of the pollution control structures is identified during inspection, proper repair procedures shall be performed. All repair procedures and materials used shall be documented in the facility log book as per Section 2.7.2 and reported to ADEQ in the event of a violation or exceedance as per Section 2.7.3.

#### 2.2.5. Reclaimed Water Classification

[A.A.C. R18-9-B701(C)(2)(a), A.A.C. R18-11-303 through 307]

The treatment facility is rated as producing reclaimed water meeting the Class A+ Reclaimed Water Quality Standards (A.A.C. R18-11, Article 3) which may be used for any allowable Class A, B, or C use under a valid reclaimed water permit (A.A.C. R18-9, Article 7).



#### 2.2.6. Certified Areawide Water Quality Management Plan Conformance

[A.A.C. R18-9-A201(B)(6)(a)]

Facility operations must conform to the approved Certified Areawide Water Quality Management Plan according to the 208 consistency determination in place at the time of permit issuance.

#### 2.3. DISCHARGE LIMITATIONS

[A.R.S. §§ 49-201(14), 49-243 and A.A.C. R18-9-A205(B)]

- 1. The permittee is authorized to operate the treatment facility with a maximum average monthly flow 3.0 mgd for Phase 3. Upon construction of Phase 4, the permittee may operate the treatment facility with a maximum average monthly flow of 4.0 mgd. Tables for discharge monitoring are listed in Section 4.2, and include Table 8: ROUTINE DISCHARGE MONITORING for Phase 3 (this table will be discontinued after the construction of Phase 4), Table 9: ROUTINE DISCHARGE MONITORING for Phase 4. Upon construction of the next phase, the facility shall discontinue monitoring for the previous phase. Monitoring is not required for phases not yet constructed.
- 2. The permittee shall notify all users that the materials authorized to be disposed of through the treatment facility are typical household sewage and pre-treated commercial wastewater and shall not include motor oil, gasoline, paints, varnishes, hazardous wastes, solvents, pesticides, fertilizers or other materials not generally associated with toilet flushing, food preparation, laundry facilities and personal hygiene.
- 3. The permittee shall operate and maintain all permitted facilities to prevent unauthorized discharges pursuant to A.R.S. § 49-201(12) resulting from failure or bypassing of applicable BADCT.
- 4. Specific discharge limitations are listed in Section 4.2, Table 8: ROUTINE DISCHARGE MONITORING.

#### 2.4. POINT OF COMPLIANCE (POC)

[A.R.S. § 49-244]

The Points of Compliance (POCs) have been established at the following locations:

	Table 2: POINT(S) OF COMPLIANCE			
POC#	POC Location	Latitude (North)	Longitude (West)	
1	Northwest corner of the WRP (well not required at time of permit issuance)	33° 13' 51.92" N	111° 33' 44.43" W	
2	MW-1, located north of the vadose zone recharge wells at the NE corner of the plant site	33° 13' 49.94" N	111° 33' 43.1" W	
3	MW-2, located north of the vadose zone recharge wells at the NE corner of the plant site.	33° 13' 49.97" N	111° 33' 42.89" W	

Groundwater monitoring is required at POC No. 3. Groundwater monitoring may be required at POC No. 2, as per Section 3.0, Table 7: COMPLIANCE SCHEDULE ITEMS, Compliance Schedule Item No. 13.

The Director may amend this permit to require installation of a groundwater monitor well and commencement of groundwater monitoring at POC No. 1, or to designate additional points of compliance, if information on groundwater gradients or groundwater usage indicates the need.

#### 2.5. MONITORING REQUIREMENTS

[A.R.S. § 49-243(K)(1), A.A.C. R18-9-A206(A)]

Unless otherwise specified in this permit, all monitoring required in this permit shall continue for the duration of the permit, regardless of the status of the facility. Unless otherwise provided, monitoring shall commence the first full monitoring period following permit issuance. All sampling, preservation and holding times shall be in accordance with currently accepted standards of professional practice. Trip blanks, equipment blanks and duplicate samples shall also be obtained, and Chain-of-Custody procedures shall be followed, in accordance with



currently accepted standards of professional practice. Copies of laboratory analyses and Chain-of-Custody forms shall be maintained at the permitted facility. Upon request, these documents shall be made immediately available for review by ADEQ personnel.

#### 2.5.1. Pre-Operational Monitoring

Not required.

#### 2.5.2. Routine Discharge Monitoring

The permittee shall monitor the effluent according to Section 4.2, Table 8: ROUTINE DISCHARGE MONITORING or Table 9: ROUTINE DISCHARGE MONITORING and Table 11: TOTAL TRIHALOMETHANE MONITORING. Representative samples of the effluent shall be collected at the point of discharge from the effluent pump station.

#### 2.5.3. Reclaimed Water Monitoring

The permittee shall monitor the Class A+ reclaimed water according to the Section 4.2, Table 10: RECLAIMED WATER MONITORING in addition to the routine discharge monitoring parameters listed in Table 8: ROUTINE DISCHARGE MONITORING and Table 9: ROUTINE DISCHARGE MONITORING. Representative samples of the reclaimed water shall be collected at the point of discharge from the effluent pump station.

#### 2.5.4. Facility / Operational Monitoring

Operational monitoring inspections shall be conducted according to Section 4.2, Table 14: FACILITY INSPECTION AND OPERATIONAL MONITORING and Table 15: OPERATIONAL MONITORING for SUBSURFCE LEACH FIELD

If any damage of the pollution control structures is identified during inspection, proper repair procedures shall be performed. All repair procedures and materials used shall be documented in the facility log book as per Section 2.7.2 and reported to ADEQ in case of a violation or exceedance as per Section 2.7.3.

#### 2.5.5. Groundwater Monitoring And Sampling Protocols

Static water levels shall be measured and recorded prior to sampling. Wells shall be purged of at least three borehole volumes (as calculated using the static water level) or until field parameters (pH, temperature, conductivity) are stable, whichever represents the greater volume. If evacuation results in the well going dry, the well shall be allowed to recover to 80 percent of the original borehole volume, or for 24 hours, whichever is shorter, prior to sampling. If after 24 hours there is not sufficient water for sampling, the well shall be recorded as "dry" for the monitoring event. An explanation for reduced pumping volumes, a record of the volume pumped, and modified sampling procedures shall be reported and submitted with the SMRF.

The permittee may conduct the sampling using the low-flow purging method as described in the Arizona Water Resources Research Center, March 1995 *Field Manual for Water Quality Sampling*. The well must be purged until indicator parameters stabilize. Indicator parameters shall include dissolved oxygen, turbidity, pH, temperature, and conductivity.

#### 2.5.5.1. POC Well Replacement

In the event that one or more of the designated POC wells should become unusable or inaccessible due to damage, exceedance of an alert level (AL) for water level as required by Section 2.6.2.3.4(3), or any other event, a replacement POC well shall be constructed and installed upon approval by ADEQ. If the replacement well is fifty feet or less from the original well, the ALs and/or aquifer quality limits (AQLs) calculated for the designated POC well shall apply to the replacement well.



#### 2.5.6. Surface Water Monitoring And Sampling Protocols

Routine surface water monitoring is not required under the terms of this permit.

### 2.5.7. Analytical Methodology

All samples collected for compliance monitoring shall be analyzed using Arizona state-approved methods. If no state-approved method exists, then any appropriate EPA-approved method shall be used. Regardless of the method used, the detection limits must be sufficient to determine compliance with the regulatory limits of the parameters specified in this permit. If all methods have detection limits higher than the applicable limit, the permittee shall follow the applicable contingency requirements of Section 2.6 and may propose "other actions" including amending the permit to set higher limits. Analyses shall be performed by a laboratory licensed by the Arizona Department of Health Services, Office of Laboratory Licensure and Certification. For results to be considered valid, all analytical work shall meet quality control standards specified in the approved methods. A list of state-certified laboratories in Arizona can be obtained at the address below:

Arizona Department of Health Services
Office of Laboratory Licensure and Certification
250 North 17th Avenue
Phoenix, Arizona 85007
Phone: (602) 364-0720

#### 2.5.8. Installation And Maintenance Of Monitoring Equipment

Monitoring equipment required by this permit shall be installed and maintained so that representative samples required by the permit can be collected. If new groundwater wells are determined to be necessary, the construction details shall be submitted to the Groundwater Protection Value Stream for approval prior to installation and the permit shall be amended to include any new monitoring points.

#### 2.6. CONTINGENCY PLAN REQUIREMENTS

[A.R.S. § 49-243(K)(3), (K)(7) and A.A.C. R18-9-A204 and R18-9-A205]

#### 2.6.1. General Contingency Plan Requirements

At least one copy of this permit and the approved contingency and emergency response plan submitted in the application shall be maintained at the location where day-to-day decisions regarding the operation of the facility are made. The permittee shall be aware of and follow the contingency and emergency plans.

Any AL exceedance, or violation of an AQL, DL, or other permit condition shall be reported to ADEQ following the reporting requirements in Section 2.7.3, unless more specific reporting requirements are set forth in Section 2.6.1.1 through 2.6.5.

Some contingency actions involve verification sampling. Verification sampling shall consist of the first follow-up sample collected from a location that previously indicated a violation or the exceedance of an AL. Collection and analysis of the verification sample shall use the same protocols and test methods to analyze for the pollutant or pollutants that exceeded an AL or violated an AQL or DL. Where verification sampling is specified in this permit, it is the option of the permittee to perform such sampling. If verification sampling is not conducted within the timeframe allotted, ADEQ and the permittee shall presume the initial sampling result to be confirmed as if verification sampling had been conducted. The permittee is responsible for compliance with contingency plans relating to the exceedance of an AL or violation of a DL, AQL or any other permit condition. The permittee is subject to enforcement action for the failure to comply with any contingency actions in this permit.

# 2.6.1.1. Contingency Monitoring for Total Trihalomethane (TTHM)

The permittee shall commence monitoring under Table 12: TOTAL TRIHALOMETHANE MONITORING - CONTINGENCY MONITORING when chlorination disinfection process is utilized



for effluent disinfection for two or more consecutive weeks. The monitoring under this table shall be suspended once the facility stops using the chlorine disinfection process and start using UV disinfection of effluent.

#### 2.6.2. Exceeding Of Alert Levels And Performance Levels

#### 2.6.2.1. Exceeding Of Performance Levels Set For Operational Conditions

For freeboard alert levels, the permittee shall comply with the requirements as specified in Section 0, Table 14: FACILITY INSPECTION AND OPERATIONAL MONITORING to prevent the overtopping of recharge basins. If recharge basins are overtopped, the permittee shall follow the requirements in Section 2.6.5.3 and the reporting requirements of Section 2.7.3.

If an alert level set in Section 0, Table 14: FACILITY INSPECTION AND OPERATIONAL MONITORING and Table 15: OPERATIONAL MONITORING for SUBSURFCE LEACH FIELD has been exceeded the permittee shall:

- Notify the Groundwater Protection Value Stream within five (5) days of becoming aware of the
  exceedance.
- 2. Submit a written report to the Groundwater Protection Value Stream within 30 days after becoming aware of the exceedance. The report shall document all of the following:
  - a. A description of the exceedance and the cause of the exceedance;
  - b. The period of the exceedance, including exact date(s) and time(s), if known, and the anticipated time period during which the exceedance is expected to continue;
  - c. Any action taken or planned to mitigate the effects of the exceedance or spill, or to eliminate or prevent recurrence of the exceedance or spill;
  - d. Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an AWQS; and
  - e. Any malfunction or failure of pollution control devices or other equipment or process.
- 3. The facility is no longer on alert status once the operational indicator no longer indicates that a performance level is being exceeded. The permittee shall, however, complete all tasks necessary to return the facility to its pre-alert operating condition.

## 2.6.2.2. Exceeding Of Alert Levels (Als) Set For Discharge Monitoring

- 1. If an AL set in Section 0, Table 8: ROUTINE DISCHARGE MONITORING, Table 9: ROUTINE DISCHARGE MONITORING, Table 10: RECLAIMED WATER MONITORING and Table 11: TOTAL TRIHALOMETHANE MONITORING has been exceeded, the permittee shall immediately investigate to determine the cause. The investigation shall include the following:
  - a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the exceedance;
  - b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences; and
  - c. If the investigation procedures indicated in (a) and (b) above fail to reveal the cause of the exceedance, the permittee shall sample individual waste streams composing the wastewater for the parameter(s) in question, if necessary to identify the cause of the exceedance.



- 2. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 5.0 and specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to the AL exceedance. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6.
- 3. Within thirty days of an AL exceedance, the permittee shall submit the laboratory results to the Groundwater Protection Value Stream along with a summary of the findings of the investigation, the cause of the exceedance, and actions taken to resolve the problem.
- Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.

# 2.6.2.2.1. Exceeding Permit Flow Limit

- 1. If the AL for average monthly flow in Section 0, Table 8: ROUTINE DISCHARGE MONITORING has been exceeded, the permittee shall begin construction of the next phase, or submit a report to the Groundwater Protection Value Stream detailing the reasons it is not necessary to begin the next phase of construction. Acceptance of the report instead of beginning the next phase of construction requires ADEQ approval.
- 2. If the AL for average monthly flow in Section 4.2, Table 9: ROUTINE DISCHARGE MONITORING has been exceeded, the permittee shall submit an application to the Groundwater Protection Value Stream for an APP amendment to expand the WRP, or submit a report detailing the reasons an expansion is not necessary. Acceptance of the report instead of an application for expansion requires ADEQ approval.

## 2.6.2.3. Exceeding Of Alert Levels In Groundwater Monitoring

#### 2.6.2.3.1. Alert Levels For Indicator Parameters

No ALs have been established for indicator parameters.

# 2.6.2.3.2. Alert Levels For Pollutants With Numeric Aquifer Water Quality Standards

- 1. In the case of an exceedance of an AL for a pollutant set in Section 0, Table 13: GROUNDWATER MONITORING, the permittee may conduct verification sampling for those pollutant(s) that exceeded their respective AL(s) within five (5) days of becoming aware of the exceedance. The permittee may use results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
- 2. If verification sampling confirms the AL exceedance or if the permittee opts not to perform verification sampling, then the permittee shall increase the frequency of monitoring for each pollutant exceeding its' respective AL(s) as follows:

Table 3: ACCELERATED MONITORING - ALERT LEVEL EXCEEDANCE		
Specified Monitoring Frequency	<b>Monitoring Frequency for AL Exceedance</b>	
Daily	Daily	
Weekly	Daily	
Monthly	Weekly	
Quarterly	Monthly	
Semi-annually	Quarterly	
Annually	Quarterly	



In addition, the permittee shall immediately initiate an investigation of the cause of the AL exceedance, including inspection of all discharging units and all related pollution control devices, review of any operational and maintenance practices that might have resulted in an unexpected discharge, and hydrologic review of groundwater conditions including upgradient water quality.

- 3. The permittee shall initiate actions identified in the approved contingency plan referenced in Section 5.0 and specific contingency measures identified in Section 2.6 to resolve any problems identified by the investigation which may have led to an AL exceedance. To implement any other corrective action the permittee shall obtain prior approval from ADEQ according to Section 2.6.6. Alternatively, the permittee may submit a technical demonstration, subject to written approval by the Groundwater Protection Value Stream, that although an AL has been exceeded, the pollutant(s) that exceeded their respective AL(s) are not reasonably expected to cause a violation of an AQL. The demonstration may propose a revised AL or monitoring frequency, for those pollutant(s) that exceeded their respective AL(s), for approval in writing by the Groundwater Protection Value Stream.
- 4. Within 30 days after confirmation of an AL exceedance, for each pollutant that exceeded an AL, the permittee shall submit the laboratory results to the Groundwater Protection Value Stream along with a summary of the findings of the investigation, the cause of the exceedance, and actions taken to resolve the problem.
- 5. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.
- 6. For each pollutant that exceeded an AL, the increased monitoring required as a result of an AL exceedance may be reduced to the monitoring frequency in Section 0, Table 13: GROUNDWATER MONITORING if the results of four sequential sampling events of those pollutants demonstrate that they did not exceed the AL.
- 7. If the increased monitoring required as a result of an AL exceedance continues for more than six (6) sequential sampling events, the permittee shall submit to ADEQ a second report documenting an investigation of each pollutant which continued to exceed an AL. This report is due within 30 days of the receipt of laboratory results of the sixth sampling event.

# 2.6.2.3.3. Alert Levels To Protect Downgradient Users From Pollutants Without Numeric Aquifer Water Quality Standards

Not required at time of issuance.

#### 2.6.2.3.4. Alert Level For Groundwater Level

- If monitoring indicates the groundwater level is not within the allowable range established by the Alert Level (AL) in Section 0, Table 13: GROUNDWATER MONITORING, the permittee shall submit a written report to the Groundwater Protection Value Stream within 30 days after becoming aware of the exceedance. The report shall document the following:
  - a. the as-built configuration of the well including the screened interval;
  - b. all groundwater level measurements available for the well;
  - c. a discussion and analysis of any trends or seasonal variations in the groundwater level measurements;
  - d. information on groundwater recharge, withdrawal, or other hydrologic conditions in the vicinity of the well, and;



- e. any other pertinent information obtained by the permittee.
- 2. If monitoring indicates the groundwater level is not within the allowable range established by the Alert Level (AL) in Section 0, Table 13: GROUNDWATER MONITORING Error! Reference source not found for more than six sequential sampling events, the permittee shall submit a second report which evaluates the cause(s) of the exceedance and recommends whether the well should be replaced pursuant to Section 2.5.5.1. The report shall discuss and demonstrate whether samples representative of the water quality of the relevant aquifer can be practicably obtained from the well.
- 3. Upon review of the submitted report, the Department may amend the permit to require replacement of the well, require additional permit conditions, or other actions.

#### 2.6.3. Discharge Limit Violation

- 1. If a DL set in Section 0, Table 8: ROUTINE DISCHARGE MONITORING, Table 8: ROUTINE DISCHARGE MONITORING, Table 10: RECLAIMED WATER MONITORING has been violated, the permittee shall immediately investigate to determine the cause. The investigation shall include the following:
  - a. Inspection, testing, and assessment of the current condition of all treatment or pollutant discharge control systems that may have contributed to the violation;
  - b. Review of recent process logs, reports, and other operational control information to identify any unusual occurrences;
  - c. If the investigation procedures indicated in (a) and (b) above fail to reveal the cause of the violation, the permittee shall sample individual waste streams composing the wastewater for the parameters in violation, as necessary to identify the cause of the violation.

The permittee shall submit a report to the Groundwater Protection Value Stream according to Section 2.7.3, which includes a summary of the findings of the investigation, the cause of the violation, and actions taken to resolve the problem. The permittee shall consider and ADEQ may require corrective action that may include control of the source of discharge, cleanup of affected soil, surface water or groundwater, notification of downstream or downgradient users who may be directly affected by the discharge, and mitigation of the impact of pollutants on existing uses of the aquifer. Corrective actions shall either be specifically identified in this permit, included in an ADEQ-approved contingency plan, or separately approved according to Section 2.6.6.

2. Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions, or other actions.

#### 2.6.4. Aquifer Quality Limit Exceedances

- 1. If an AQL set in Section 0, Table 13: GROUNDWATER MONITORING has been exceeded, the permittee may conduct verification sampling for those pollutant(s) that were above their respective AQL(s) within five (5) days of becoming aware of the exceedance. The permittee may use results of another sample taken between the date of the last sampling event and the date of receiving the result as verification.
- 2. If verification sampling does not confirm an AQL exceedance, no further action is needed under this Section.
- 3. If verification sampling confirms that an AQL was exceeded for any parameter or if the permittee opts not to perform verification sampling, then, the permittee shall increase the frequency of monitoring for those parameters as follows:



Table 4: ACCELERATED MONITORING - AQUIFER QUALITY LIMIT VIOLATION		
Specified Monitoring Frequency	Monitoring Frequency for AQL Violation	
Daily	Daily	
Weekly	Daily	
Monthly	Weekly	
Quarterly	Monthly	
Semi-annually	Quarterly	
Annually	Quarterly	

In addition, the permittee shall immediately initiate an evaluation for the cause of the violation, including inspection of all discharging units and all related pollution control devices, and review of any operational and maintenance practices that might have resulted in unexpected discharge.

The permittee also shall submit a report according to Section 2.7.3, which includes a summary of the findings of the investigation, the cause of the violation, and actions taken to resolve the problem. A verified exceedance of an AQL will be considered a violation unless the permittee demonstrates within 30 days that the exceedance was not caused or contributed to by pollutants discharged from the facility. Unless the permittee has demonstrated that the exceedance was not caused or contributed to by pollutants discharged from the facility, the permittee shall consider and ADEQ may require corrective action that may include control of the source of discharge, cleanup of affected soil, surface water, or groundwater, and mitigation of the impact of pollutants on existing uses of the aquifer. Corrective actions shall either be specifically identified in this permit, included in an ADEQ approved contingency plan, or separately approved according to Section 2.6.6.

Upon review of the submitted report, the Department may amend the permit to require additional monitoring, increased frequency of monitoring, amendments to permit conditions or other actions.

#### 2.6.5. Emergency Response And Contingency Requirements For Unauthorized Discharges

[A.R.S. § 49-201(12) AND PURSUANT TO A.R.S. § 49-241]

#### 2.6.5.1. Duty To Respond

The permittee shall act immediately to correct any condition resulting from a discharge pursuant to A.R.S. § 49-201(12) if that condition could pose an imminent and substantial endangerment to public health or the environment.

#### 2.6.5.2. Discharge Of Hazardous Substances Or Toxic Pollutants

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of suspected hazardous substances (A.R.S. § 49-201(19)) or toxic pollutants (A.R.S. § 49-243(I)) on the facility site, the permittee shall promptly isolate the area and attempt to identify the discharged material. The permittee shall record information, including name, nature of exposure and follow-up medical treatment, if necessary, on persons who may have been exposed during the incident. The permittee shall notify the Groundwater Protection Value Stream within 24 hours of discovering the discharge of hazardous material which (a) has the potential to cause an AWQS or AQL exceedance, or (b) could pose an endangerment to public health or the environment.

#### 2.6.5.3. Discharge Of Non-Hazardous Materials

In the event of any unauthorized discharge pursuant to A.R.S. § 49-201(12) of non-hazardous materials from the facility, the permittee shall promptly attempt to cease the discharge and isolate the discharged material. Discharged material shall be removed and the site cleaned up as soon as possible. The permittee shall notify the Groundwater Protection Value Stream within 24 hours of discovering the discharge of



non-hazardous material which has the potential to cause an AQL exceedance, or could pose an endangerment to public health or the environment.

#### 2.6.5.4. Reporting Requirements

The permittee shall submit a written report for any unauthorized discharges reported under Sections 2.6.5.2 and 2.6.5.3 to the Groundwater Protection Value Stream within 30 days of the discharge or as required by subsequent ADEQ action. The report shall summarize the event, including any human exposure, and facility response activities and include all information specified in Section 2.7.3. If a notice is issued by ADEQ subsequent to the discharge notification, any additional information requested in the notice shall also be submitted within the time frame specified in the notice. Upon review of the submitted report, ADEQ may require additional monitoring or corrective actions.

#### 2.6.6. Corrective Actions

Specific contingency measures identified in Section 2.6 have already been approved by ADEQ and do not require written approval to implement.

With the exception of emergency response actions taken under Section 2.6.5, the permittee shall obtain written approval from the Groundwater Protection Value Stream prior to implementing a corrective action to accomplish any of the following goals in response to exceedance of an AL, AQL, DL, or other permit condition:

- 1. Control of the source of an unauthorized discharge;
- 2. Soil cleanup;
- 3. Cleanup of affected surface waters;
- 4. Cleanup of affected parts of the aquifer;
- 5. Mitigation to limit the impact of pollutants on existing uses of the aquifer.

Within 30 days of completion of any corrective action, the operator shall submit to the Groundwater Protection Value Stream, a written report describing the causes, impacts, and actions taken to resolve the problem.

#### 2.7. REPORTING AND RECORDKEEPING REQUIREMENTS

[A.R.S. § 49-243(K)(2) and A.A.C. R18-9-A206(B) and R18-9-A207]

#### 2.7.1. Self-Monitoring Report Form

- 1. The permittee shall complete the Self-Monitoring Reporting Forms (SMRFs) provided by ADEQ, and submit the completed report through the myDEQ online reporting system. The permittee shall use the format devised by ADEQ.
- 2. The permittee shall complete the SMRF to the extent that the information reported may be entered on the form. If no information is required during a reporting period, the permittee shall enter "not required" on the form, include an explanation, and submit the form to the Groundwater Protection Value Stream.
- 3. The tables contained in Section 0 list the monitoring parameters and the frequencies for reporting results on the SMRF:
  - a. Table 8: ROUTINE DISCHARGE MONITORING
  - b. Table 8: ROUTINE DISCHARGE MONITORING
  - c. Table 10: RECLAIMED WATER MONITORING



- d. Table 11: TOTAL TRIHALOMETHANE MONITORING
- e. Table 13: GROUNDWATER MONITORING

The parameters listed in the above-identified tables from Section 0 are the only parameters for which SMRF reporting is required.

#### 2.7.2. Operation Inspection / Log Book Recordkeeping

A signed copy of this permit shall be maintained at all times at the location where day-to-day decisions regarding the operation of the facility are made. A log book (paper copies, forms, or electronic data) of the inspections and measurements required by this permit shall be maintained at the location where day-to-day decisions are made regarding the operation of the facility. The log book shall be retained for ten years from the date of each inspection, and upon request, the permit and the log book shall be made immediately available for review by ADEQ personnel. The information in the log book shall include, but not be limited to, the following information as applicable:

- 1. Name of inspector;
- 2. Date and shift inspection was conducted;
- 3. Condition of applicable facility components;
- 4. Any damage or malfunction, and the date and time any repairs were performed;
- 5. Documentation of sampling date and time; and
- 6. Any other information required by this permit to be entered in the log book.
- 7. Monitoring records for each measurement shall comply with A.A.C. R18-9-A206(B)(2).

#### 2.7.3. Permit Violation And Alert Level Status Reporting

- 1. The permittee shall notify the Groundwater Protection Value Stream within five (5) days (except as provided in Section 2.6.5) of becoming aware of an AL exceedance, or violation of any permit condition, AQL, or DL for which notification requirements are not specified in Sections 2.6.1.1 through 2.6.5.
- 2. The permittee shall submit a written report to the Groundwater Protection Value Stream within 30 days of becoming aware of the violation of any permit condition, AQL, or DL. The report shall document all of the following:
  - a. Identification and description of the permit condition for which there has been a violation and a description of the cause;
  - b. The period of violation including exact date(s) and time(s), if known, and the anticipated time period during which the violation is expected to continue;
  - c. Any corrective action taken or planned to mitigate the effects of the violation, or to eliminate or prevent a recurrence of the violation;
  - d. Any monitoring activity or other information which indicates that any pollutants would be reasonably expected to cause a violation of an AWQS;
  - e. Proposed changes to the monitoring which include changes in constituents or increased frequency of monitoring; and
  - f. Description of any malfunction or failure of pollution control devices or other equipment or processes.



#### 2.7.4. Operational, Other Or Miscellaneous Reporting

The permittee shall record the information as required in Section 0, Table 14: FACILITY INSPECTION AND OPERATIONAL MONITORING and Table 15: OPERATIONAL MONITORING for SUBSURFCE LEACH FIELD in the facility log book as per Section 2.7.2, and report to the Groundwater Protection Value Stream any violations or exceedances as per Section 2.7.3.

If the treatment facility is classified for reclaimed water under this permit, the permittee shall submit the reclaimed water monitoring results and flow volumes to any of the following in accordance with A.A.C. R18-9-B701(C)(2)(c):

- Any reclaimed water agent who has contracted for delivery of reclaimed water from the permittee;
   and
- 2. Any end user who has not waived interest in receiving this information.

## 2.7.4.1. Injection Well Installation Report(s)

An injection well installation report shall be submitted to ADEQ within ninety (90) days after the installation and completion of Injection Well per the Compliance Schedule #10 in Section 3.0, Table 7: COMPLIANCE SCHEDULE ITEMS. Each well installation report shall be completed in accordance with A.A.C. R12-15-801 et seq. and consist of the following:

- Copies of Arizona Department of Water Resources (ADWR) Notice of Intent and all related submittals to ADWR;
- Boring log and well as-built diagram;
- Total depth of well measured after installation;
- Top of well casing or sounding tube (whichever is used as the fixed reference measuring point) and ground surface elevation;
- Depth to groundwater;
- Geophysical logging reports and subsurface sampling results, if any;
- Description of well drilling method;
- Description of well development method;
- If dedicated sampling equipment installed, details on the equipment and at what depth the equipment was installed;
- Summary of analytical results for initial groundwater sample collected after installation;
- Corresponding analytical data sheets; and
- GPS coordinates for each new well

#### 2.7.5. Reporting Location

All Self-Monitoring Report Forms (SMRFs) shall be submitted Through the myDEQ portal accessible on the ADEQ website at: http://www.azdeq.gov/welcome-mydeq

All other documents required by this permit shall be mailed to:

The Arizona Department of Environmental Quality Groundwater Protection Value Stream 1110 West Washington Street Phoenix, Arizona 85007 Phone (602) 771-4571



# 2.7.6. Reporting Deadline

The following table lists the quarterly report due dates:

Table 5: QUARTERLY REPORTING DEADLINES		
Monitoring Conducted During Quarter:	Quarterly Report Due By:	
January-March	April 30	
April-June	July 30	
July-September	October 30	
October-December	January 30	

The following table lists the semi-annual and annual report due dates if applicable:

Table 6: (SEMI-)ANNUAL REPORTING DEADLINES		
Monitoring Conducted: Report Due By:		
Semi-annual: January-June	July 30	
Semi-annual: July-December	January 30	
Annual: January-December	January 30	

#### 2.7.7. Changes To Facility Information In Section 1.0

The Groundwater Protection Value Stream shall be notified within ten days of any change of facility information including Facility Name, Permittee Name, Mailing or Street Address, Facility Contact Person, or Emergency Telephone Number.

## 2.8. Temporary Cessation

[A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A209(A)]

The permittee shall give written notice to the Groundwater Protection Value Stream before ceasing operation of the facility for a period of 60 days or greater. The permittee shall take the following measures upon temporary cessation:

- 1. If applicable, direct the wastewater flows from the facility to another state-approved wastewater treatment facility;
- 2. Correct the problem that caused the temporary cessation of the facility; and
- 3. Notify the Groundwater Protection Value Stream with a monthly facility status report describing the activities conducted on the treatment facility to correct the problem.
- 4. Submittal of Self-Monitoring Report Forms (SMRFs) is still required; report "temporary cessation" in the comment section.

At the time of notification the permittee shall submit for ADEQ approval a plan for maintenance of discharge control systems and for monitoring during the period of temporary cessation. Immediately following ADEQ approval, the permittee shall implement the approved plan. If necessary, ADEQ shall amend permit conditions to incorporate conditions to address temporary cessation. During the period of temporary cessation, the permittee shall provide written notice to the Groundwater Protection Value Stream of the operational status of the facility every three years. If the permittee intends to permanently cease operation of any facility, the permittee shall submit closure notification, as set forth in Section 2.9 below.

#### 2.9. Closure

 $[A.R.S.~\S\S~49\text{-}243(K)(6), 49\text{-}252~and~A.A.C.~R18\text{-}9\text{-}A209(B)]$ 

For a facility addressed under this permit, the permittee shall give written notice of closure to the Groundwater Protection Value Stream of the intent to cease operation without resuming activity for which the facility was designed or operated. Submittal of SMRFs is still required; report "closure in process" in the comment section.



#### 2.9.1. Closure Plan

Within 90 days following notification of closure, the permittee shall submit for approval to the Groundwater Protection Value Stream, a closure plan which meets the requirements of A.R.S. § 49-252 and A.A.C. R18-9-A209(B)(3).

If the closure plan achieves clean-closure immediately, ADEQ shall issue a letter of approval to the permittee. If the closure plan contains a schedule for bringing the facility to a clean-closure configuration at a future date, ADEQ may incorporate any part of the schedule as an amendment to this permit.

#### 2.9.2. Closure Completion

Upon completion of closure activities, the permittee shall give written notice to the Groundwater Protection Value Stream indicating that the approved closure plan has been implemented fully and providing supporting documentation to demonstrate that clean-closure has been achieved (soil sample results, verification sampling results, groundwater data, as applicable). If clean-closure has been achieved, ADEQ shall issue a letter of approval to the permittee at that time. If any of the following conditions apply, the permittee shall follow the terms of post-closure stated in this permit:

- 1. Clean-closure cannot be achieved at the time of closure notification or within one year thereafter under a diligent schedule of closure actions;
- Further action is necessary to keep the facility in compliance with the AWQS at the applicable POC
  or, for any pollutant for which the AWQS was exceeded at the time this permit was issued, further
  action is necessary to prevent the facility from further degrading the aquifer at the applicable POC
  with respect to that pollutant;
- 3. Remedial, mitigative or corrective actions or controls are necessary to comply with A.R.S. § 49-201(30) and Title 49, Chapter 2, Article 3;
- 4. Further action is necessary to meet property use restrictions.
- 5. SMRF submittals are still required until Clean Closure is issued.

#### 2.10. Post-closure

[A.R.S. §§ 49-243(K)(6), 49-252 and A.A.C. R18-9 A209(C)]

Post-closure requirements shall be established based on a review of facility closure actions and will be subject to review and approval by the Groundwater Protection Value Stream.

In the event clean-closure cannot be achieved pursuant to A.R.S. § 49-252, the permittee shall submit for approval to the Groundwater Protection Value Stream a post-closure plan that addresses post-closure maintenance and monitoring actions at the facility. The post-closure plan shall meet all requirements of A.R.S. §§ 49-201(30) and 49-252 and A.A.C. R18-9-A209(C). Upon approval of the post-closure plan, this permit shall be amended or a new permit shall be issued to incorporate all post-closure controls and monitoring activities of the post-closure plan.

# 2.10.1. Post-Closure Plan

A specific post-closure plan may be required upon the review of the closure plan.

#### 2.10.2. Post-Closure Completion

Not required at the time of permit issuance.



# 3.0 COMPLIANCE SCHEDULE

[A.R.S. § 49-243(K)(5) and A.A.C. R18-9-A208]

Unless otherwise indicated, for each compliance schedule item listed below, the permittee shall submit the required information to the Groundwater Protection Value Stream.

	Table 7: COMPLIANCE SCHEDULE ITEMS							
No.	Description	Due By:	Permit Amendment Required?					
Engineer's Certificate of Completion								
1	The permittee shall submit a signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department that confirms that the facility is constructed according to the Department-approved design report or plans and specifications, as applicable.	Within 90 days after completion of Phase 4 construction and prior to operation of Phase 4 treatment train	No					
2	The permittee shall submit a signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department that confirms that filter is constructed according to the Department-approved design report or plans and specifications, as applicable.	Prior to utilizing the new disk filter and within 90 days of completion of construction.	No					
3	The permittee shall submit a signed, dated, and sealed Engineer's Certificate of Completion in a format approved by the Department that confirms that the UV disinfection units are constructed according to the Department-approved design report or plans and specifications, as applicable.	Prior to utilizing the new UV disinfection unit and within 90 days of completion of construction.	No					
Phase	e 4 Commencement		1					
4	The permittee shall notify the Department of the completion of construction of Phase 4 and prior to commencement of monitoring under Table 9: ROUTINE DISCHARGE MONITORING.	Within 15 days of commencement of the Phase 4 treatment train	No					
Perco	olation Testing for Subsurface Disposal Field							
5	The permittee shall provide a written notification to the Department that the agreement is in place between the landowner/Home Owner's Association (HOA) and Johnson Utilities granting access to property owned by the HOA.	Within 15 days of finalizing the agreement	No					
6	Prior to disposal through subsurface disposal field, the permittee shall conduct the percolation testing to determine the current actual percolation rates for the subsurface disposal field and determine the disposal capacity through the subsurface disposal field.	Within 60 days of finalizing formal agreement between the landowner/HOA and Johnson Utilities granting access to property owned by the HOA	No					



	Table 7: COMPLIANCE SC		Permit
No.	Description	Due By:	Amendment Required?
7	Prior to disposal through subsurface disposal field, the permittee shall submit a report summarizing the percolation test results and the actual disposal capacity through the subsurface disposal field.	Within 30 days of completing the percolation testing	No
Closu	re Cost and Financial Assurance Mechanism		
8	The permittee shall submit an amendment application to update the closure cost and financial assurance mechanism for Phase 4 treatment train.	Prior to commencement of Phase 4 treatment train operation	Yes
9	The permittee shall submit a demonstration that the financial assurance mechanism listed in Section 2.1, Financial Capability, is being maintained as per A.R.S. 49-243.N.4 and A.A.C. R18-9-A203(H) for all estimated closure and post-closure costs including updated costs submitted under Section 3.0, No. 10 below. The demonstration shall include a statement that the closure and post-closure strategy has not changed, the discharging facilities listed in the permit have not been altered in a manner that would affect the closure and post-closure costs, and discharging facilities have not been added.  The demonstration shall also include information in support of a letter of credit as required in A.A.C. R18-9-A203(C)(5).	Prior to commencement of Phase 4 treatment train operation or every 6 years from the date of permit signature, for the duration of the permit, whichever occurs first (Refer Compliance schedule item #7)	No
10	The permittee shall submit updated cost estimates for facility closure and post-closure, as per A.A.C. R18-9-A201(B)(5) and A.R.S. 49-243.N.2.a.	Prior to commencement of Phase 4 treatment train operation or every 6 years from the date of permit signature, for the duration of the permit, whichever occurs first (Refer Compliance schedule item #7)	Yes
Insta	llation of Direct Aquifer Injection Recharge Wells		
11	The permittee may install up to four (4) proposed direct aquifer injection recharge wells, as one-to-one replacements for four (4) retired vadose zone recharge wells. A well installation report shall be submitted as described in Section 2.7.4.1. At minimum, the report shall include the well type (i.e.: direct aquifer injection recharge well), the beginning and ending dates of well installation, an as-built diagram, a well driller's log, test results demonstrating the estimated recharge rate of the well, and a map showing the location of the well (labeled with well type, installed latitude and longitude coordinates, and ADWR Well Registration Number). If multiple wells are installed simultaneously, a combined Well Installation Report may be submitted.	Within 60 days after the date of completion of installation and testing of each permitted direct aquifer injection recharge well	No



# **DRAFT PERMIT NO. P-105324**

	Table 7: COMPLIANCE SCHEDULE ITEMS						
No.	Description	Due By:	Permit Amendment Required?				
Grou	ndwater Monitoring at POC No. 2 (Monitor Well MV	V-1)					
12	The permittee shall install a pump in Monitor Well MW-1	Within 30 days after collecting a depth to water measurement in Monitor Well MW-2 that is deeper than the bottom of the screened interval.	No				
13	The permittee shall submit an APP Amendment Application to begin monitoring at POC No. 2 (Monitor Well MW-1).	Within 90 days after collecting a depth to water measurement in Monitor Well MW-2 that is deeper than the bottom of the screened interval.	Yes				



# 4.0 TABLES OF MONITORING REQUIREMENTS

4.1. PRE-OPERATIONAL MONITORING (OR CONSTRUCTION REQUIREMENTS)

Not applicable.



# 4.2. COMPLIANCE OR OPERATIONAL MONITORING

Т	able 8: ROUTI	NE DISCHAR	GE MONIT	ORING	
	PHASE	3 – Flows up t	to 3.0 mgd		
Sampling Point Number		Point Identifi		Latitude (North)	Longitude (West)
1 – Total Flow	Flow meter l	ocated at Efflu Station	ent Pump	33° 13' 43"	111° 33' 46"
2 – Recharge Basins and Vadose Zones Wells Flow		r for flow to Red Vadose Zone		33° 13' 46.5 <sub>"</sub>	111 <sub>0</sub> 33, 42.8"
3 – Flow to the leach field	Flow meter	for flow to lea	ch fields	33° 13' 50.05"	1110 33' 42.05"
Parameter	Alert Level	Discharge Limit	Units	Sampling Frequency	Reporting Frequency
Total Flow1: Daily2	Not Established3	Not Established	mgd4	Daily	Quarterly
Total Flow: Monthly Averages	2.85	3.0	mgd	Monthly Calculation	Quarterly
Reuse Flow: Daily	Not Established	Not Established	mgd	Daily	Quarterly
Reuse Flow: Monthly Average	2.85	3.0	mgd	Monthly Calculation	Quarterly
Recharge Basin and Vadose Zone Recharge: Daily	Not Established	Not Established	mgd	Daily	Quarterly
Recharge Basin and Vadose Zone Recharge: Monthly Average	2.85	3.0	mgd	Monthly Calculation	Quarterly
AZPDES Flow: Daily	Not Established	Not Established	mgd	Daily	Quarterly
AZPDES Flow: Monthly Average	2.85	3.0	mgd	Monthly Calculation	Quarterly
Flow to Leach Field: Daily	Not Established	1.0	mgd	Daily	Quarterly
Flow to Leach Field: Monthly Average	0.95	1.0	mgd	Monthly Calculation	Quarterly
Direct Aquifer Injection Recharge: Daily	Not Established	Not Established	mgd	Daily	Quarterly
Direct Aquifer Injection Recharge: Monthly Average	3.8	4.0	mgd	Monthly Calculation	Quarterly

<sup>&</sup>lt;sup>1</sup> Total flow for all methods of disposal (vadose zone recharge, direct aquifer injection recharge, AZPDES discharge, subsurface disposal field and reuse under an approved reclaimed water permit).

<sup>2</sup> Total Daily Flow shall be measured using a continuous recording flow meter that totals the flows daily.

<sup>3</sup> Not Established means that monitoring is required, but no limits have been specified at the time of permit issuance.

<sup>4</sup> mgd = million gallons per day

<sup>&</sup>lt;sup>5</sup> Monthly Average means the calculated average of daily flow values in a month.



Table 8 – ROUTINE DISCHARGE MONITORING (Continued)						
Sampling Point Number	Sampling	Sampling Point Identification			Longitude	
4	Efflu	ent Pump Station	1	33° 13' 43" N	111° 33' 46" W	
Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency	
<b>Nutrients and Pathogens:</b>			T			
E. coli: Single sample maximum	Not Established	15.0	MPN <sub>6</sub>	Daily7	Quarterly	
E. coli: four (4) of seven (7) samples in a week8	Not Established	Non-detect9	MPN	Weekly Evaluation	Quarterly	
Total Nitrogenio: Five- sample rolling geometric meanii	8	10	mg/l <sub>12</sub>	Monthly Calculation	Quarterly	
Metals (total):						
Antimony	0.0048	0.006	mg/l	Quarterly	Quarterly	
Arsenic	0.04	0.05	mg/l	Quarterly	Quarterly	
Barium	1.60	2.00	mg/l	Quarterly	Quarterly	
Beryllium	0.0032	0.004	mg/l	Quarterly	Quarterly	
Cadmium	0.004	0.005	mg/l	Quarterly	Quarterly	
Chromium	0.08	0.1	mg/l	Quarterly	Quarterly	
Cyanide (as free cyanide)	0.16	0.2	mg/l	Quarterly	Quarterly	
Fluoride	3.2	4.0	mg/l	Quarterly	Quarterly	
Lead	0.04	0.05	mg/l	Quarterly	Quarterly	
Mercury	0.0016	0.002	mg/l	Quarterly	Quarterly	
Nickel	0.08	0.1	mg/l	Quarterly	Quarterly	
Selenium	0.04	0.05	mg/l	Quarterly	Quarterly	
Thallium	0.0016	0.002	mg/l	Quarterly	Quarterly	

<sup>6</sup> MPN = Most Probable Number / 100 ml sample. For MPN, a value of <2.2 shall be considered to be non-detect.

<sup>&</sup>lt;sup>7</sup> For *E.coli*, "daily" sampling means every day in which a sample can practicably be obtained and delivered in sufficient time for proper analysis, provided that no less than four samples in each week are obtained and analyzed.

<sup>8</sup> Week means a seven-day period starting on Sunday and ending on the following Saturday. The reporting form for this parameter consists of 13 weeks per quarter.

<sup>9</sup> *E.coli* 4 of 7 samples requires entering "Compliance" or "Non-compliance" on the SMRF for each week of the reporting period. Evaluate the daily *E.coli* results for that week (Sunday through Saturday). If, of these seven days, four or more of the daily *E.coli* results are non-detect, report "Compliance" for that week's entry on the SMRF. If three or fewer of the daily *E.coli* results are non-detect, report "Non-compliance for that week's entry on the SMRF.

<sup>10</sup> Total Nitrogen = Nitrate as N + Nitrite as N + Total Kjeldahl Nitrogen

<sup>11</sup> The 5-sample rolling geometric mean is determined by multiplying the five (5) most recent monthly sample values together then taking the fifth root of the product. Example:  $GMs = \sqrt[5]{(m_1)(m_2)(m_3)(m_4)(m_5)}$ 

<sup>12</sup> mg/l = milligrams per liter



Table 8 – ROUTINE DISCHARGE MONITORING (Continued)								
Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency			
Volatile Organic Compounds	Volatile Organic Compounds (VOCs):							
Benzene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually			
Carbon tetrachloride	0.004	0.005	mg/l	Semi-Annually	Semi-Annually			
o-Dichlorobenzene	0.48	0.6	mg/l	Semi-Annually	Semi-Annually			
para-Dichlorobenzene	0.06	0.075	mg/l	Semi-Annually	Semi-Annually			
1,2-Dichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually			
1,1-Dichloroethylene	0.0056	0.007	mg/l	Semi-Annually	Semi-Annually			
cis-1,2-Dichloroethylene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually			
trans-1,2-Dichloroethylene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually			
Dichloromethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually			
1,2-Dichloropropane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually			
Ethylbenzene	0.56	0.7	mg/l	Semi-Annually	Semi-Annually			
Hexachlorobenzene	0.0008	0.001	mg/l	Semi-Annually	Semi-Annually			
Hexachlorocyclopentadiene	0.04	0.05	mg/l	Semi-Annually	Semi-Annually			
Monochlorobenzene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually			
Styrene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually			
Tetrachloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually			
Toluene	0.8	1.0	mg/l	Semi-Annually	Semi-Annually			
Trihalomethanes (total)13	0.08	0.1	mg/l	Semi-Annually	Semi-Annually			
1,1,1-Trichloroethane	0.16	0.2	mg/l	Semi-Annually	Semi-Annually			
1,2,4 - Trichlorobenzene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually			
1,1,2 - Trichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually			
Trichloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually			
Vinyl Chloride	0.0016	0.002	mg/l	Semi-Annually	Semi-Annually			
Xylenes (Total)	8.0	10.0	mg/l	Semi-Annually	Semi-Annually			

<sup>&</sup>lt;sup>13</sup>Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.



	Table 9: ROUTI	NE DISCHARG	E MONITOR	RING	
	PHAS	E 4 – Flows up to	o 4 mgd		
Sampling Point Number	Sampling	g Point Identific	Latitude (North)	Longitude (West)	
1 – Total Flow	Flow meter	located at Effluer Station	nt Pump	33° 13' 43"	111° 33' 46"
2 – Recharge Basins and Vadose Zones Wells Flow		flow to Recharge lose Zone Wells	e Basin and	33° 13' 46.5"	111 <sub>0</sub> 33, 42.8,
3 – Flow to the leach field		TBD		TBD	TBD
Parameter	Alert Level	Discharge Limit	Units	Sampling Frequency	Reporting Frequency
Total Flow14: Daily15	Not Established <sub>16</sub>	Not Established	mgd17	Daily	Quarterly
Total Flow: Monthly Average 18	3.8	4.0	mgd	Monthly Calculation	Quarterly
Reuse Flow: Daily	Not Established	Not Established	mgd	Daily	Quarterly
Reuse Flow: Monthly Average	3.8	4.0	mgd	Monthly Calculation	Quarterly
Recharge Basin and Vadose Zone Recharge: Daily	Not Established	Not Established	mgd	Daily	Quarterly
Recharge Basin and Vadose Zone Recharge: Monthly Average	3.8	4.0	mgd	Monthly Calculation	Quarterly
AZPDES Flow: Daily	Not Established	Not Established	mgd	Daily	Quarterly
AZPDES Flow: Monthly Average	3.8	4.0	mgd	Monthly Calculation	Quarterly
Flow to Leach Field: Daily	Not Established	1.0	mgd	Daily	Quarterly
Flow to Leach Field: Monthly Average	0.95	1.0	mgd	Monthly Calculation	Quarterly
Direct Aquifer Injection Recharge: Daily	Not Established	Not Established	mgd	Daily	Quarterly
Direct Aquifer Injection Recharge: Monthly Average	3.8	4.0	mgd	Monthly Calculation	Quarterly

<sup>&</sup>lt;sup>14</sup> Total flow for all methods of disposal (vadose zone recharge, direct aquifer injection recharge, AZPDES discharge, subsurface disposal field and reuse under an approved reclaimed water permit).

<sup>15</sup> Total Daily Flow shall be measured using a continuous recording flow meter that totals the flows daily.

<sup>16</sup> Not Established means that monitoring is required, but no limits have been specified at the time of permit issuance

<sup>17</sup> mgd = million gallons per day

<sup>18</sup> Monthly Average means the calculated average of daily flow values in a month



Table 9 – ROUTINE DISCHARGE MONITORING (Continued)							
Sampling Point Number	Sampling	Sampling Point Identification			Longitude		
4	Efflu	ent Pump Stat	ion	33° 13' 43" N	111° 33' 46" W		
Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency		
<b>Nutrients and Pathogens:</b>			1				
E. coli: Single sample maximum	Not Established	15.0	MPN19	Daily20	Quarterly		
E. coli: four (4) of seven (7) samples in a week21	Not Established	Non- detect22	MPN	Weekly Evaluation	Quarterly		
Total Nitrogen23: Five- sample rolling geometric mean24	8	10	mg/l <sub>25</sub>	Monthly Calculation	Quarterly		
Metals (total):							
Antimony	0.0048	0.006	mg/l	Quarterly	Quarterly		
Arsenic	0.04	0.05	mg/l	Quarterly	Quarterly		
Barium	1.60	2.00	mg/l	Quarterly	Quarterly		
Beryllium	0.0032	0.004	mg/l	Quarterly	Quarterly		
Cadmium	0.004	0.005	mg/l	Quarterly	Quarterly		
Chromium	0.08	0.1	mg/l	Quarterly	Quarterly		
Cyanide (as free cyanide)	0.16	0.2	mg/l	Quarterly	Quarterly		
Fluoride	3.2	4.0	mg/l	Quarterly	Quarterly		
Lead	0.04	0.05	mg/l	Quarterly	Quarterly		
Mercury	0.0016	0.002	mg/l	Quarterly	Quarterly		
Nickel	0.08	0.1	mg/l	Quarterly	Quarterly		
Selenium	0.04	0.05	mg/l	Quarterly	Quarterly		
Thallium	0.0016	0.002	mg/l	Quarterly	Quarterly		

<sup>19</sup> MPN = Most Probable Number / 100 ml sample. For MPN, a value of <2.2 shall be considered to be non-detect.

<sup>&</sup>lt;sup>20</sup> For *E.coli*, "daily" sampling means every day in which a sample can practicably be obtained and delivered in sufficient time for proper analysis, provided that no less than four samples in each week are obtained and analyzed.

<sup>21</sup>Week means a seven-day period starting on Sunday and ending on the following Saturday. The reporting form for this parameter consists of 13 weeks per quarter.

<sup>22</sup> *E.coli* 4 of 7 samples requires entering "Compliance" or "Non-compliance" on the SMRF for each week of the reporting period. Evaluate the daily *E.coli* results for that week (Sunday through Saturday). If, of these seven days, four or more of the daily *E.coli* results are non-detect, report

<sup>&</sup>quot;Compliance" for that week's entry on the SMRF. If three or fewer of the daily *E.coli* results are non-detect, report "Non-compliance for that week's entry on the SMRF.

<sup>23</sup> Total Nitrogen = Nitrate as N + Nitrite as N + Total Kjeldahl Nitrogen

<sup>24</sup> The 5-sample rolling geometric mean is determined by multiplying the five (5) most recent monthly sample values together then taking the fifth root of the product. Example:  $GMs = \sqrt[5]{(m_1)(m_2)(m_3)(m_4)(m_5)}$ 

<sup>25</sup> mg/l = milligrams per liter



Table 9 – ROUTINE DISCHARGE MONITORING (Continued)									
Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency				
Volatile Organic Compounds	Volatile Organic Compounds (VOCs):								
Benzene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually				
Carbon tetrachloride	0.004	0.005	mg/l	Semi-Annually	Semi-Annually				
o-Dichlorobenzene	0.48	0.6	mg/l	Semi-Annually	Semi-Annually				
para-Dichlorobenzene	0.06	0.075	mg/l	Semi-Annually	Semi-Annually				
1,2-Dichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually				
1,1-Dichloroethylene	0.0056	0.007	mg/l	Semi-Annually	Semi-Annually				
cis-1,2-Dichloroethylene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually				
trans-1,2-Dichloroethylene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually				
Dichloromethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually				
1,2-Dichloropropane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually				
Ethylbenzene	0.56	0.7	mg/l	Semi-Annually	Semi-Annually				
Hexachlorobenzene	0.0008	0.001	mg/l	Semi-Annually	Semi-Annually				
Hexachlorocyclopentadiene	0.04	0.05	mg/l	Semi-Annually	Semi-Annually				
Monochlorobenzene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually				
Styrene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually				
Tetrachloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually				
Toluene	0.8	1.0	mg/l	Semi-Annually	Semi-Annually				
Trihalomethanes (total)26	0.08	0.1	mg/l	Semi-Annually	Semi-Annually				
1,1,1-Trichloroethane	0.16	0.2	mg/l	Semi-Annually	Semi-Annually				
1,2,4 - Trichlorobenzene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually				
1,1,2 - Trichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually				
Trichloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually				
Vinyl Chloride	0.0016	0.002	mg/l	Semi-Annually	Semi-Annually				
Xylenes (Total)	8.0	10.0	mg/l	Semi-Annually	Semi-Annually				

<sup>&</sup>lt;sup>26</sup>Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.



#### Table 10: RECLAIMED WATER MONITORING

Reclaimed water monitoring under Table 10: RECLAIMED WATER MONITORING for Class A+ shall be performed in addition to routine discharge monitoring required under Section 4.2, Table 8: ROUTINE DISCHARGE MONITORING and Table 8: ROUTINE DISCHARGE MONITORING

Sampling Point Number	Sampling Point Identification		Latitude (North)	Longitude (West)
1	Effluent P	ump Station	33° 13' 43" N	111° 33' 46" W
Parameter	Discharge Limit Units		Sampling Frequency	Reporting Frequency
E.coli: Single-sample maximum	15	MPN <sub>27</sub>	Daily <sub>28</sub>	Quarterly
<i>E.coli</i> : Four (4) of last seven (7) samples	Non-detect29	MPN	Daily Evaluation	Quarterly
Total Nitrogen30: Five-sample rolling geometric mean31	10	mg/l <sub>32</sub>	Monthly Calculation	Quarterly
Turbidity33: Single reading	5.0	NTU <sub>34</sub>	Daily35	Quarterly
Turbidity: 24-hour average	2.0	NTU	Daily Calculation	Quarterly
Enteric Virus <sub>36</sub> : Four (4) of last seven (7) samples	Non-detect	MPN37	Monthly / Suspended38	Quarterly

<sup>27</sup>MPN = Most Probable Number per 100 ml. For MPN, a value of <2.2 shall be considered to be non-detect.

<sup>28</sup> For *E.coli*, "daily" sampling means every day in which a sample can practicably be obtained and delivered in sufficient time for proper analysis, provided that no less than four (4) samples in each seven-day period are obtained and analyzed.

<sup>29</sup> Non detect requires entering "Compliance" or "Non-compliance" on the SMRF for each day of the reporting period. Evaluate the daily fecal coliform result along with the six (6) previous sample results. If four (4) or more of those results are non-detect, report "Compliance" for that day's entry on the SMRF. If four (4) or more of those results have detections of fecal coliform, report "Non-compliance" for that day's entry

<sup>30</sup> Total Nitrogen is the sum of Nitrate as N, Nitrite as N, and Total Kjeldahl Nitrogen (TKN)

<sup>31</sup> The five-sample rolling geometric mean is determined by multiplying the five (5) most recent monthly sample values together then taking the fifth root of the product. Example:  $GM_5 = \sqrt[5]{(m_1)(m_2)(m_3)(m_4)(m_5)}$ 

<sup>32</sup> mg/l = milligrams per liter

<sup>33</sup> Turbidimeter shall be placed at a point in the wastewater treatment process after filtration and immediately before disinfection and shall have a signal averaging time not exceeding 120 seconds. All exceedances must be explained and submitted to the Department with the corresponding quarterly SMRF; occasional spikes due to back-flushing or instrument malfunction shall not be considered an exceedance

<sup>34</sup> NTU = Nephelometric Turbidity Units

<sup>35</sup> For the single turbidity reading, daily means the maximum reading during the 24-hour period.

<sup>36</sup> Initial monthly enteric virus sampling shall be performed to indicate four (4) out of seven (7) sample results of non-detect.

<sup>37</sup> MPN = Most Probable Number / 100 ml sample. For MPN, a value of <2.2 shall be considered to be non-detect.

<sup>38</sup> Enteric virus sampling shall resume only when the discharge limit for the 24-hour average for turbidity is exceeded for two (2) consecutive 24-hour monitoring periods. Monthly enteric virus monitoring shall continue until four (4) out of seven (7) consecutive sample results show no detection. During times when enteric virus sampling is suspended, enter "suspended" in the appropriate space on the SMRF



### Table 11: TOTAL TRIHALOMETHANE MONITORING

In addition to the Table 8: ROUTINE DISCHARGE MONITORING and Table 9: ROUTINE DISCHARGE MONITORING, the permittee shall monitor TTHM under this table until the chlorine disinfection is used as a primary disinfection method and until a new UV disinfection unit is not installed. Upon installation of a new UV disinfection unit, the facility shall discontinue monitoring under this table.

Sampling Point Number	Sampling Point Identification			Latitude (North)	Longitude (West)
4	Effl	Effluent Pump Station			111° 33' 46" W
Parameter	Alert Levels	Discharge Limit	Units	Sampling Frequency	Reporting Frequency
Total Trihalomethanes (TTHMs)39	0.08	0.1	mg/l	Monthly <sub>40</sub>	Quarterly

<sup>39</sup>Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.

<sup>40</sup> Monitoring under this table shall be conducted until the chlorine disinfection is used as a primary disinfection method. Upon installation of a new UV disinfection unit, the monitoring under this table shall be suspended.



### Table 12: TOTAL TRIHALOMETHANE MONITORING - CONTINGENCY MONITORING

In addition to the Table 8: ROUTINE DISCHARGE MONITORING and Table 9: ROUTINE DISCHARGE MONITORING, the permittee shall monitor under this table when chlorine disinfection process is used to disinfect the effluent for two or more consecutive weeks. The facility shall suspend the monitoring under this table, once UV disinfection unit is utilized for disinfection of effluent (Refer Section 2.6.1.1).

Sampling Point Number	Sampling Point Identification			Latitude (North)	Longitude (West)
4	Effluent Pump Station			33° 13' 43" N	111° 33' 46" W
Parameter	Alert Levels	Discharge Limit	Units	Sampling Frequency	Reporting Frequency
Total Trihalomethanes (TTHMs)41	0.08	0.1	mg/l	Weekly/ Suspended42	Quarterly

<sup>&</sup>lt;sup>41</sup>Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane. <sup>42</sup>Monitoring is required only as contingency action per Section 2.6.1.1. If contingency is not triggered indicate 'Suspended' on SMRFs.



	Table 13	3: GROUNDWATI	ER MONITORIN	G	
Sampling Point Number	Sampling Point Identification			Latitude (North)	Longitude (West)
5		POC Well #3) MW-2, located north of the vadose zone recharge wells at the northeast corner of the WRP site			112° 34' 55" W
Parameter	Alert Level	Aquifer Quality Limit	Units	Sampling Frequency	Reporting Frequency
Total Nitrogen43	Not Established44	25.5	mg/l <sub>45</sub>	Monthly Calculation	Quarterly
Nitrate-Nitrite as N	Not Established	25.5	mg/l	Monthly Calculation	Quarterly
Nitrate as N	Not Established	25.5	mg/l	Monthly	Quarterly
Nitrite as N	0.8	1.0	mg/l	Monthly	Quarterly
Total Kjeldahl Nitrogen (TKN)	Not Established	Not Established	mg/l	Monthly	Quarterly
E. Coli	Not Established	Non-detect46	MPN47	Monthly	Quarterly
Minimum Depth to Water48	5049	Not Established	Feet bgs50	Monthly	Quarterly
Metals (Dissolved)					
Antimony	0.0048	0.006	mg/l	Quarterly	Quarterly
Arsenic	0.04	0.05	mg/l	Quarterly	Quarterly
Barium	1.60	2.00	mg/l	Quarterly	Quarterly
Beryllium	0.0032	0.004	mg/l	Quarterly	Quarterly
Cadmium	0.004	0.005	mg/l	Quarterly	Quarterly
Chromium	0.08	0.1	mg/l	Quarterly	Quarterly
Cyanide (as free cyanide)	0.16	0.2	mg/l	Quarterly	Quarterly
Fluoride	3.2	4.0	mg/l	Quarterly	Quarterly
Lead	0.04	0.05	mg/l	Quarterly	Quarterly
Mercury	0.0016	0.002	mg/l	Quarterly	Quarterly
Nickel	0.08	0.1	mg/l	Quarterly	Quarterly
Selenium	0.04	0.05	mg/l	Quarterly	Quarterly
Thallium	0.0016	0.002	mg/l	Quarterly	Quarterly

<sup>43</sup> Total Nitrogen is the sum of Nitrate as N, Nitrite as N, and Total Kjeldahl Nitrogen (TKN)

<sup>44</sup> Not Established = Monitoring is required but no limits are specified.

<sup>45</sup> mg/l = milligrams per liter

<sup>&</sup>lt;sup>46</sup> For CFU, a value of <1.0 shall be considered to be non-detect

<sup>47</sup> MPN = Most Probable Number per 100 ml. For MPN, a value of <2.2 shall be considered to be non-detect.

<sup>48</sup> Refer Section 2.6.2.3.4.

<sup>&</sup>lt;sup>49</sup> A depth to water result of less than 50 feet bgs (i.e.: closer to the ground surface than 50 feet bgs, or more shallow than 50 feet bgs) shall be considered an exceedance of the AL for Minimum Depth to Water.

<sup>50</sup> Feet bgs = Feet below ground surface



Table 13: GROUNDWATER MONITORING					
Parameter	AL	DL	Units	Sampling Frequency	Reporting Frequency
Volatile Organic Compounds	(VOCs):	1			
Benzene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Carbon tetrachloride	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
o-Dichlorobenzene	0.48	0.6	mg/l	Semi-Annually	Semi-Annually
para-Dichlorobenzene	0.06	0.075	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,1-Dichloroethylene	0.0056	0.007	mg/l	Semi-Annually	Semi-Annually
cis-1,2-Dichloroethylene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually
trans-1,2-Dichloroethylene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Dichloromethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
1,2-Dichloropropane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Ethylbenzene	0.56	0.7	mg/l	Semi-Annually	Semi-Annually
Hexachlorobenzene	0.0008	0.001	mg/l	Semi-Annually	Semi-Annually
Hexachlorocyclopentadiene	0.04	0.05	mg/l	Semi-Annually	Semi-Annually
Monochlorobenzene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Styrene	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
Tetrachloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Toluene	0.8	1.0	mg/l	Semi-Annually	Semi-Annually
Trihalomethanes (total)51	0.08	0.1	mg/l	Semi-Annually	Semi-Annually
1,1,1-Trichloroethane	0.16	0.2	mg/l	Semi-Annually	Semi-Annually
1,2,4 - Trichlorobenzene	0.056	0.07	mg/l	Semi-Annually	Semi-Annually
1,1,2 - Trichloroethane	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Trichloroethylene	0.004	0.005	mg/l	Semi-Annually	Semi-Annually
Vinyl Chloride	0.0016	0.002	mg/l	Semi-Annually	Semi-Annually
Xylenes (Total)	8.0	10.0	mg/l	Semi-Annually	Semi-Annually

<sup>&</sup>lt;sup>51</sup>Total Trihalomethanes are comprised of Bromoform, Bromodichloromethane, Chloroform, and Dibromochloromethane.



# Table 14: FACILITY INSPECTION AND OPERATIONAL MONITORING

The permittee shall record the inspection performance levels in a log book as per Section 2.7.2, and report any violations or exceedances as per Section 2.7.3. In the case of an exceedance, identify which structure exceeds the performance level in the log book.

Pollution Control Structure/Parameter	Performance Level	Inspection Frequency	Reporting Frequency
Pump Integrity	Good working condition	Weekly	
Treatment Plant Components	Good working condition	Weekly	
Recharge Basins Freeboard	Two (2) Linear Feet	Weekly	
Direct Aquifer Injection Recharge Wells	Good working condition No biofouling No clogging No daylighting	Weekly	
Vadose Zone Recharge Wells	Good working condition No biofouling No clogging No daylighting	Weekly	See Section 2.7.3
Subsurface Disposal Field	No daylighting	Weekly	
Recharge Basin Vegetation Removal	No vegetation present in the impoundment or within five feet of the impoundment	Monthly	
Effects of Land Subsidence and Earth Fissures on Treatment Plant Components	Not to exceed a leakage rate of 550 gallons per day per acre	Weekly	
POC Wells	Well cap and seals are intact. No discernable corrosion or deterioration of the well(s). No discernable materials accumulating in the well. Any dedicated well equipment are functional and intact	Monthly	See Section 2.7.3 and 2.5.5.1



### Table 15: OPERATIONAL MONITORING for SUBSURFCE LEACH FIELD

This monitoring is required only during the effluent discharge to the subsurface disposal field. The permittee shall record the inspection performance levels in a log book as per Section 2.7.2, and report any violations or exceedances as per Section 2.7.3. In the case of an exceedance, identify which structure exceeds the performance level in the log

	book.	T	
Observation Ports	Latitude	Longitude	
1	33° 13' 53.62 <sub>"</sub> N	111° 33 <sup>,</sup> 27.1" W	
2	33° 13' 53.86" N	111° 33 <sup>,</sup> 27.08 <sup>,</sup> W	
3	33° 13' 54.02" N	111° 33 <sup>,</sup> 27.02" W	
4	33° 13' 54.25" N	111° 33 <sup>,</sup> 26.89 <sup>,</sup> W	
5	33° 13' 54.53" N	111° 33 <sup>,</sup> 26.47" W	
6	33° 13' 54.75" N	111° 33 <sup>,</sup> 15.06 <sup>,</sup> W	
7	33° 13' 54.94" N	111° 33 <sup>,</sup> 15.18 <sup>,</sup> W	
8	33° 13' 55.16" N	111° 33 <sup>,</sup> 15.18 <sup>,</sup> W	
9	33° 13' 55.37" N	111° 33 <sup>,</sup> 15.25" W	
10	33° 13′ 55.6″ N	111° 33 <sup>,</sup> 15.36 <sup>,</sup> W	
Pollution Control Structure/ Parameter	Performance Level	Inspection Frequency	Reporting Frequency
Water elevation in subsurface disposal facility observation ports, except during flooding of Queen Creek Wash	6 inches below the land surface	Daily52	See Section 2.7.3

<sup>52</sup>This inspection needs to be conducted only during discharge of effluent to the subsurface leach field.



#### 5.0 REFERENCES AND PERTINENT INFORMATION

The terms and conditions set forth in this permit have been developed based upon the information contained in the following, which are on file with the Department:

APP Application, dated: August 14, 2019

Contingency Plan, dated: February 27, 2020

Final Hydrologist Report, dated: June 22, 2020

Final Engineering Report, dated: June 19, 2020

Public Notice, dated: XXXX

Public Hearing, dated: Not applicable

Responsiveness Summary, dated: Not applicable

#### 6.0 NOTIFICATION PROVISIONS

#### **6.1.** Annual Registration Fees

The permittee is notified of the obligation to pay an Annual Registration Fee to ADEQ. The Annual Registration Fee is based on the amount of daily influent or discharge of pollutants in gallons per day (gpd) as established by A.R.S. § 49-242.

## **6.2.** Duty to Comply

[A.R.S. §§ 49-221 through 263]

The permittee is notified of the obligation to comply with all conditions of this permit and all applicable provisions of Title 49, Chapter 2, Articles 1, 2 and 3 of the Arizona Revised Statutes, Title 18, Chapter 9, Articles 1 through 4, and Title 18, Chapter 11, Article 4 of the Arizona Administrative Code. Any permit non-compliance constitutes a violation and is grounds for an enforcement action pursuant to Title 49, Chapter 2, Article 4 or permit amendment, suspension, or revocation.

#### 6.3. Duty to Provide Information

[A.R.S. §§ 49-243(K)(2) and 49-243(K)(8)]

The permittee shall furnish to the Director, or an authorized representative, within a time specified, any information which the Director may request to determine whether cause exists for amending or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

### 6.4. Compliance with Aquifer Water Quality Standards

[A.R.S. §§ 49-243(B)(2) and 49-243(B)(3)]

The permittee shall not cause or contribute to a violation of an Aquifer Water Quality Standard (AWQS) at the applicable point of compliance (POC) for the facility. Where, at the time of issuance of the permit, an aquifer already exceeds an AWQS for a pollutant, the permittee shall not discharge that pollutant so as to further degrade, at the applicable point of compliance for the facility, the water quality of any aquifer for that pollutant.



### 6.5. Technical and Financial Capability

[A.R.S. §§ 49-243(K)(8) and 49-243(N) and A.A.C. R18-9-A202(B) and R18-9-A203(E) and (F)]

The permittee shall have and maintain the technical and financial capability necessary to fully carry out the terms and conditions of this permit. Any bond, insurance policy, trust fund, or other financial assurance mechanism provided as a demonstration of financial capability in the permit application, pursuant to A.A.C. R18-9-A203(C), shall be in effect prior to any discharge authorized by this permit and shall remain in effect for the duration of the permit.

#### 6.6. Reporting of Bankruptcy or Environmental Enforcement

[A.A.C. R18-9-A207(C)]

The permittee shall notify the Director within five days after the occurrence of any one of the following:

- 1. the filing of bankruptcy by the permittee; or
- 2. the entry of any order or judgment not issued by the Director against the permittee for the enforcement of any environmental protection statute or rule.

#### 6.7. Monitoring and Records

[A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A206]

The permittee shall conduct any monitoring activity necessary to assure compliance with this permit, with the applicable water quality standards established pursuant to A.R.S. §§ 49-221 and 49-223 and §§ 49-241 through 49-252.

#### 6.8. Inspection and Entry

[A.R.S. §§ 49-1009, 49-203(B), and 49-243(K)(8)]

In accordance with A.R.S. §§ 41-1009 and 49-203(B), the permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to enter and inspect the facility as reasonably necessary to ensure compliance with Title 49, Chapter 2, Article 3 of the Arizona Revised Statutes, and Title 18, Chapter 9, Articles 1 through 4 of the Arizona Administrative Code and the terms and conditions of this permit.

#### 6.9. Duty to Modify

[A.R.S. § 49-243(K)(8) and A.A.C. R18-9-A211]

The permittee shall apply for and receive a written amendment before deviating from any of the designs or operational practices authorized by this permit.

#### 6.10. Permit Action: Amendment, Transfer, Suspension, and Revocation

[A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]

This permit may be amended, transferred, suspended, or revoked for cause, under the rules of the Department. The permittee shall notify the Groundwater Protection Value Stream in writing within 15 days after any change in the owner or operator of the facility. The notification shall state the permit number, the name of the facility, the date of property transfer, and the name, address, and phone number where the new owner or operator can be reached. The operator shall advise the new owner or operators of the terms of this permit and the need for permit transfer in accordance with the rules.

#### 7.0 ADDITIONAL PERMIT CONDITIONS

#### 7.1. Other Information

[A.R.S. § 49-243(K)(8)]

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, the permittee shall promptly submit the correct facts or information.





# 7.2. Severability

[A.R.S. §§ 49-201, 49-241 through 251, A.A.C. R18-9-A211, R18-9-A212 and R18-9-A213]

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby. The filing of a request by the permittee for a permit action does not stay or suspend the effectiveness of any existing permit condition.

### 7.3. Permit Transfer

[A.A.C. R18-9-A212(B)]

This permit may not be transferred to any other person except after notice to and approval of the transfer by the Department. No transfer shall be approved until the applicant complies with all transfer requirements as specified in A.A.C. R18-9-A212(B) and (C).